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| 09/610,278 | 07/06/2000 | Ross W. Callon | IBN-0016 | 5556 |

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CENTRAL COAST PATENT AGENCY
PO BOX 187
AROMAS, CA 95004

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| EXAMINER |
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RYMAN, DANIEL J

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| ART UNIT | PAPER NUMBER |
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2665

DATE MAILED: 03/30/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/610,278

Applicant(s)

CALLON ET AL.

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2/23/2004 have been fully considered but they are not persuasive. On page 2 of the Response Applicant argues that Wils does not teach multiple links since Wils discloses load balancing between identified nodes in a network. Applicant goes on to argue that Wils' teaching is limited to the nodes. Examiner, respectfully, disagrees. At a bare minimum, Wils explicitly discloses that each router is connected to two (a plurality of) links, as seen in Fig. 1-3, since each router is connected to two subnets. In addition, while Wils uses language such as "[t]he router [determines] a suitable next hop node for the message" (col. 2, lines 60-62) which explicitly discloses that only a node is determined, it is implicit that in order to forward the message to the node a link must also be determined since a link inherently connects the router to the node. As such, Examiner maintains that Wils teaches multiple links.

2. Applicant goes on to argue on page 2 that Wils does not disclose providing data with identifying portion which identifies a source node and a destination node. Examiner, respectfully, disagrees. As Applicant admits, Wils discloses the use of the IP protocol for the packets. The IP protocol calls for a packet to contain a source address and a destination address. Therefore, by teaching the use of IP packets, Wils implicitly also teaches "providing the data with an identifying portion which identifies a source node and a destination node for the data". As such, Examiner maintains that Wils teaches a destination address.

3. On pages 2-3 of the Response, Applicant argues that "Wils teaches an *identifier* which cannot be used in a hashing procedure"; however, Applicant provides no rationale to support this statement. Examiner, respectfully, submits that the IP addresses used by Applicant as a hash

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value are also identifiers. The fact that the IP addresses are identifiers does not mean that the addresses cannot be used in a hashing function.

4. Further, in response to Applicant's argument, on pages 2-3 of the Response, that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a unique router value which is used in a hashing function) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant does not claim that the identifiers are used in a hashing function until claim 10 where claim 10 is rejected using additional references. Therefore, even if Applicant's arguments were correct, such arguments would be moot since Applicant does not claim a hashing procedure.

5. On page 3, Applicant argues that Wilford fails to disclose using a destination node address in a hashing function with a node value to determine a link for exiting data. Again, Examiner submits that the features upon which applicant relies (i.e., using a destination node address in a hashing function with a node value to determine a link for exiting data) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant merely claims that the identifying portion of the data and the node identifying value are used to generate a link selection value. The claim does not specify that hashing performs this generation.

6. In addition, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based

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on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Applicant argues that Wilford does not disclose using "destination node addresses" with a node value to determine a link.

Examiner agrees, which is why Examiner combined Wils with Wilford. It is the combination of Wils and Wilford, not Wilford alone, that discloses using destination node addresses with a node value to determine a link.

7. Applicant proceeds to argue that claims 2-14 and 16-28 are patentable since they depend upon a patentable claim. As argued above, Examiner maintains that the rejection of the independent claims is correct. Therefore since there are no arguments to the contrary, Examiner also maintains that the rejections of claims 2-14 and 16-28 are correct. Examiner urges Applicant to add further limitations to the claims in order to distinguish the claims from the prior art.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-6, 8, 9, 15-20, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wils et al (USPN 6,397,260) in view of Wilford et al (USPN 6,111,877).

10. Regarding claims 1 and 15, Wils discloses a method and apparatus for transferring data on a network, said network including a plurality of nodes connected by a plurality of links, at least one node being connected to more than one link over which the data can be transferred out of the at least one node (col. 2, lines 29-53), the method comprising steps of and the apparatus

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comprising means for: providing the data with an identifying portion which identifies a source node and a destination node for the data (col. 2, line 66-col. 3, line 9 and col. 7, lines 55-58) where it is implicit that IP packets have source and destination addresses; associating the at least one node with a node identifying value (router identifier) to distinguish the at least one node from other nodes on the network (col. 2, line 42-65); and using the node identifying value, selecting a link to transfer the data out of the at least one node (col. 2, lines 54-65). Although Wils discloses that the router determines the link upon which to forward the data, Wils does not expressly disclose using the identifying portion of the data to generate a link selection value which identifies one of the more than one links connected to the at least one node to transfer the data out of the at least one node. Wilford teaches, in a computer system for routing data packets, using the identifying portion of the data (source and destination addresses) to generate a link selection value (hash value) which identifies one of the more than one links connected to the at least one node to transfer the data out of the at least one node in order to ensure that the ordering of the packets is preserved (col. 1, lines 7-30; col. 2, lines 1-33; and col. 2, lines 47-59). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the identifying portion of the data to generate a link selection value which identifies one of the more than one links connected to the at least one node to transfer the data out of the at least one node in order to ensure that the ordering of the packets is preserved. Thus Wils in view of Wilford discloses using the identifying portion of the data and the node identifying value to generate a link selection value which identifies one of the more than one links connected to the at least one node to transfer the data out of the at least one node, where the node identifying value is used, as

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broadly defined, to select a link since the node identifying value selects a router which in turn selects a link.

11. Regarding claims 2 and 16, referring to claims 1 and 15, Wils in view of Wilford discloses that the data is a packet of data (Wils: col. 2, line 66-col. 3, line 9 and col. 7, lines 55-58 and Wilford: col. 1, lines 7-30; col. 2, lines 1-33; and col. 2, lines 47-59).

12. Regarding claims 3 and 17, referring to claims 2 and 16, Wils in view of Wilford discloses that the packet is an Internet Protocol (IP) packet (Wils: col. 2, line 66-col. 3, line 9 and col. 7, lines 55-58 and Wilford: col. 1, lines 7-30; col. 2, lines 1-33; and col. 2, lines 47-59).

13. Regarding claims 4 and 18, referring to claims 2 and 16, Wils in view of Wilford discloses that the identifying portion of the data is at least a portion of a header of the packet (Wils: col. 2, line 66-col. 3, line 9 and col. 7, lines 55-58 and Wilford: col. 1, lines 7-30; col. 2, lines 1-33; and col. 2, lines 47-59) where it is implicit that the addresses in an IP packet are in the header where the destination and source addresses define the flow of the packet.

14. Regarding claims 5 and 19, referring to claims 4 and 18, Wils in view of Wilford discloses that the identifying portion of the data includes a source node ID portion of the header (Wils: col. 2, line 66-col. 3, line 9 and col. 7, lines 55-58 and Wilford: col. 1, lines 7-30; col. 2, lines 1-33; and col. 2, lines 47-59).

15. Regarding claims 6 and 20, referring to claims 4 and 18, Wils in view of Wilford discloses that the identifying portion of the data includes a destination node ID portion of the header (Wils: col. 2, line 66-col. 3, line 9 and col. 7, lines 55-58 and Wilford: col. 1, lines 7-30; col. 2, lines 1-33; and col. 2, lines 47-59).

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16. Regarding claims 8 and 22, referring to claims 1 and 15, Wils in view of Wilford discloses that the node identifying value is an IP address of the at least one node (Wils: col. 3, line 43-col. 4, line 31) where the IP address is a router identifying value which is used to by the source to obtain the MAC address for the router where the MAC address is used to forward messages to the router.

17. Regarding claims 9 and 23, referring to claims 1 and 15, Wils in view of Wilford discloses that generating the link selection value includes performing a logical operation on the identifying portion of the data and the node identifying value (Wils: col. 2, line 66-col. 3, line 9 and col. 7, lines 55-58 and Wilford: col. 1, lines 7-30; col. 2, lines 1-33; and col. 2, lines 47-59) where a “logical operation” is a very broad term encompassing any processing by the router.

18. Claims 7 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wils et al (USPN 6,397,260) in view of Wilford et al (USPN 6,111,877) as applied to claims 4 and 18 above, and further in view of Cohen (US 2002/0097736).

19. Regarding claims 7 and 21, referring to claims 4 and 18, Wils in view of Wilford does not expressly disclose that the identifying portion of the data includes a protocol portion of the header. Cohen teaches, in a system for evenly distributing packet flows among processors, using the protocol portion of a packet as a means to identify the flow of the packet (col. 3, paragraph 42). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the identifying portion of the data include a protocol portion of the header since the protocol portion can be used to identify the flow of a packet.

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20. Claims 10-12, 14, 24-26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wils et al (USPN 6,397,260) in view of Wilford et al (USPN 6,111,877) as applied to claims 9 and 23 above, and further in view of Lawler et al (USPN 5,978,951).

21. Regarding claims 10 and 24, referring to claims 9 and 23, Wils in view of Wilford discloses that the logical operation comprises a hash operation on the identifying value of the data (Wils: col. 2, line 66-col. 3, line 9 and col. 7, lines 55-58 and Wilford: col. 1, lines 7-30; col. 2, lines 1-33; and col. 2, lines 47-59). Wils in view of Wilford does not expressly disclose that the logical operation comprises a hash operation on the node identifying value. Lawler teaches in a cache management system for a router, using a destination MAC address (router identifier) as a hash value in order to provide a high-speed flexible cache management system (col. 15, lines 30-51) where the cache could store information as to whether or not the packet is to be accepted by the router. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the logical operation be a hash operation on the node identifying value in order to provide a high-speed flexible cache management system. Thus Wils in view of Wilford in further view of Lawler discloses that the logical operation comprises a hash operation.

22. Regarding claims 11 and 25, referring to claims 10 and 24, Wils in view of Wilford in further view of Lawler discloses that the identifying portion of the data includes a source node ID portion of the header (Wils: col. 2, line 66-col. 3, line 9 and col. 7, lines 55-58 and Wilford: col. 1, lines 7-30; col. 2, lines 1-33; and col. 2, lines 47-59).

23. Regarding claims 12 and 26, referring to claims 10 and 24, Wils in view of Wilford in further view of Lawler discloses that the identifying portion of the data includes a destination

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node ID portion of the header (Wils: col. 2, line 66-col. 3, line 9 and col. 7, lines 55-58 and Wilford: col. 1, lines 7-30; col. 2, lines 1-33; and col. 2, lines 47-59).

24. Regarding claims 14 and 28, referring to claims 10 and 24, Wils in view of Wilford in further view of Lawler suggests that the hash operation comprises performing a cyclic redundancy check (CRC) on the identifying portion of the data and the node identifying value (Lawler: col. 15, lines 53-67).

25. Claims 13 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wils et al (USPN 6,397,260) in view of Wilford et al (USPN 6,111,877) in further view of Lawler et al (USPN 5,978,951) as applied to claims 4 and 18 above, and further in view of Cohen (US 2002/0097736).

26. Regarding claims 13 and 27, referring to claims 10 and 24, Wils in view of Wilford in further view of Lawler does not expressly disclose that the identifying portion of the data includes a protocol portion of the header. Cohen teaches, in a system for evenly distributing packet flows among processors, using the protocol portion of a packet as a means to identify the flow of the packet (col. 3, paragraph 42). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the identifying portion of the data include a protocol portion of the header since the protocol portion can be used to identify the flow of a packet.

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Antonov (USPN 6,044,080) see entire document which pertains to routing packets based on source and destination addresses such that the ordering of packets is preserved.

Cheriton et al (USPN 6,091,725) see entire document which pertains to managing traffic flows based on a source/destination address pair.

28. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-5:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
Examiner
Art Unit 2665

^{DJR}
Daniel J. Ryman



HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600